

Northern Exploration Services, LLC

Aug 3, 2011

To: Mr. Brian Havelock
DNR Division of Oil and Gas
550 W. 7th Ave., Suite 800
Anchorage, AK 995101

From: NES/Apache, Alaska
Rick Trupp

Subject: Request for Geophysical Exploration Permit



Dear Mr. Havelock:

Apache Alaska Corporation plans to acquire a 3D survey in and around Cook Inlet, starting in the fall 2011. Geophysical data acquisition activities will be conducted by Apache's contractor Northern Exploration Services (NES). On behalf of Apache, NES submits the following application package, plan of operations and maps as our permit request to acquire 3D seismic data in areas of Cook Inlet including onshore, offshore and transition zone program. The program, known as the *Cook Inlet 3D Program*, is expected to take up to three years to complete in different phases. This year's program is defined by Area 1.

Apache proposes to conduct continuously over the course of the next three years. The first area proposed to be surveyed over the following year, beginning in fall 2011 is located along the western coast of upper Cook Inlet, from West Forelands (McArthur River north to Beluga. The proposed area is approximately 2,719 square kilometers.

In general, marine offshore operations will be from April – November, transition zone operations will be from September – December and March – May and onshore operations will generally be during September – April. All proposed times are dependent on weather, sea ice, ground conditions and parameters of issued permits.

The acquisition proposals involve utilizing autonomous nodal seismic recording equipment in all three operating environments with a conventional explosive source, air gun source in marine offshore operations and a combination of explosives and air guns in the transition zone.

Onshore acquisition techniques will include utilizing tracked vehicles, heliportable drills, conventional explosive charges and autonomous nodal seismic recording devices. The techniques outlined within have been geared towards, maintaining high HSE standards, while producing cost effective, high quality data sets for our clientele. Onshore crews would be housed in local accommodations.

Offshore acquisition techniques will include a multiple vessel platform, marine nodal seismic recording devices and air gun sources. Vessels will be used both as the source as well as

Northern Exploration Services, LLC

deployment and retrieval of the nodes, it is expected the Apache would maintain a 24 hour shift for all vessels. Crews will be housed on board the vessels.

Please find enclosed the following items in support of the application:

- Application and application fee of \$250
- Plan of Operations
- USGS topo maps depicting public permit boundary

NES is intimately familiar with the available infrastructure in the region, the local politics and climactic conditions and are well equipped to ensure their success with regard to the various permit stipulations.

Should you require any additional information we will be available upon request.

Sincerely,

A handwritten signature in blue ink, appearing to read "Rick Trupp".

Rick Trupp
Business Manager
Northern Exploration Services
907-522-4499 (o)

RECEIVED

AUG 04 2011

DIVISION OF
OIL AND GAS

Permit # _____
OFFICIAL USE ONLY
(rev 4/6/99)

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS
GEOPHYSICAL EXPLORATION PERMIT

Applicant/Permittee: Apache Alaska Corporation - Lisa Parker

Address: 2000 Post Oak Blvd Suite 100 Phone: 907-262-5722
Houston, Texas 77056 Fax: 907-398-1883 (call)

Contractor: Northern Exploration Services Phone: 907.522.4499
Fax: 907.522.4498

Contact: Rick Trupp Title: Permits Coordinator Contractor
Address: 8240 Sandlewood PI Suite 102 Phone: 907-522-4499
Anchorage, Alaska 99507 Fax: 907-522-4498

General Location: Cook Inlet uplands, inter-tidal and offshore - see attached list

Period Requested: From: September 1, 2011 To: August 31, 2014

Geophysical Technique: Seismic (complete below) ___ Other (attached description)

- A) Marine: Vessel Name: Peregrine Falcon, Miss Diane, Maxime, Dream Catcher, 2 bowpickers
Registered Owner: Various vessel captains
Official Number: See Plan of Operations
Radio Call Number: _____
Airguns: Total cubic inches (ci) in array: 440 - 2400 cu in.
Maximum Operating Pressure: 1,000 - 5,000
Minimum Water Depth: _____
Streamer Length: N/A
Other Energy Source: _____ (attach description)
- B) Uplands: ___ Vibroseis: ☒ Track Mounted ___ Wheel Mounted
☒ Shallow Hole: Hole Depths 35'
___ Surface Shot: Charge Heights Bottom Hole
Explosives: Type: Pentolite cut to fit
Lbs/Shot/Hole: 4.4 kg Distance Between Charges 165'
Number of Helicopters 2 Fixed Wing Aircraft 1
- C) Number of line miles (2D) _____ and/or square miles (3D) to be acquired: 400 sq mi per year
- D) Line Location Map: The applicant is required to submit a map(s) showing the exact location of all proposed seismic lines. The applicant may request that this map be maintained confidential as provided in AS 38.05.035(a)(8). Do you request confidentiality? Yes ☒ No ___

Housing for Project Personnel:

- A) Housing type: ☒ Existing Facilities West Forelands Camp Facilities & Existing accommodations in Communities
___ Temporary Camp, please describe _____

- B) Number of Personnel: 25 - 50
C) Drinking Water Supply: Supplied at camp facilities or accommodations complex
D) Disposal of Solid Wastes: Taken to approved disposal site
E) Disposal of Liquid Wastes: Taken to approved disposal site

Fuel Storage:

- A) Type of Fuel: Diesel & gasoline Amount Stored 6,000 gallons
C) Method of Storage/Containment: Fuel bladders with 110% containment
D) Location of Stored Fuel: staging locations throughout project


Surface Travel:

- A) The applicant must provide a list of all surface contact vehicles to be used.
B) Will use of this equipment require clearing of vegetation? No if yes, describe method and amount of clearing required.
C) Will river crossings be required? Yes if yes, list major drainages. See attached list

Indemnity: Amount: \$100,000 & \$500,000 Bond ID Number 6732062 & 6732063
Bonding Company: Safeco Insurance Company of American Type: X Statewide Bond
Address: 1001 4th Avenue, Suite 1700 Single Program
Seattle, WA 98514

The applicant agrees that operations shall be conducted in conformance with applicable Federal, State and local laws and regulations now, or hereafter, in effect during the life the permit. The applicant agrees that operations shall be conducted in strict compliance with the provisions of the Alaska Miscellaneous Land Use Regulations, and permit stipulations.

The applicant certifies that he has read and is familiar with the Alaska Miscellaneous Land Use Regulations.

Signature: 
Print Name Lisa Parker
Title Agent for Apache

Date 2 August 2011

DO NOT WRITE BELOW THIS LINE

LAND USE PERMIT

The DIVISION OF OIL AND GAS grants to _____
the right to use State of Alaska lands, as described in this application, subject to 11 AAC 96.010 thru 96.250, Miscellaneous Land Use Regulations, and the attached stipulations.

Effective dates for permit: _____ to _____

STATE OF ALASKA

BY: _____ Date _____
TITLE: _____